



A206.E1939

JACC March 9, 2010

Volume 55, issue 10A



## COMPARATIVE EFFECTIVENESS OF BLEEDING AVOIDANCE THERAPIES IN PCI PATIENTS: ANALYSIS FROM THE NATIONAL CARDIOVASCULAR DATA REGISTRY®

i2 Poster Contributions

Georgia World Congress Center, Hall B5

Monday, March 15, 2010, 3:30 p.m.-4:30 p.m.

Session Title: Pharmacotherapies and Complex Patients

Abstract Category: Pharmacotherapy - Interventional Aspects

Presentation Number: 2504-432

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**Background:** Bivalirudin and vascular closure devices reduce bleeding complications in percutaneous coronary intervention (PCI) patients. We studied the comparative effectiveness and frequency of use of both in PCI patients with diverse bleeding risk levels.

**Methods:** Analysis of patients from the National Cardiovascular Data Registry® CathPCI registry® reported between 2004-2008. Major bleeding events required transfusion, prolonged hospital stay, and/or hemoglobin drop  $>3$  g/dL. The validated NCDR bleeding risk model was used to stratify patients into low (3%) categories for peri-PCI bleeding.

**Results:** There were 1.5 million PCI procedures evaluated. Major bleeding occurred in 30,429 (2%) patients. The Figure presents observed bleeding events and number needed to treat to prevent 1 bleeding event by use of bivalirudin, vascular closure devices, both, or neither for the total group and stratified by subgroup of bleeding risk. The combination of bivalirudin and closure devices was associated with the lowest rate of bleeding in each group. High risk patients were more likely to receive no therapy than low risk patients (40% vs 31%,  $P<0.001$ ) and less likely to receive combination therapy (14% vs 21%,  $P<0.001$ ).

**Conclusions:** Combined use of bivalirudin and closure devices is associated with reduced bleeding, with the greatest benefit observed in high risk patients. Use of these therapies is paradoxically more common in low risk patients.

